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MILITARY STANDARD
SANITARY STANDARDS
FOR MEAT PROCESSING PLANTS IN OVERSEAS AREAS



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DEPARTMENT OF DEFENSE
Washington, D.C. 20301

Sanitary Standards for Meat Processing Plants in Overseas Areas

MIL-STD-1481D

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2. Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commandant, Academy of Health Sciences, US Army, ATTN: HSHA-IVS, Fort Sam Houston, TX 78234, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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14. ABSTRACT This standard establishes the general sanitary requirements for overseas area meat processing plants that do not have an active U.S. Department of Agriculture (USDA) foreign meat inspection program. This standard is intended to insure clean, wholesome food products that are free from chemical, microbiological, and physical contaminants and to prevent the transmission of foodborne disease to members of the Armed Forces.					
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1. SCOPE

1.1 Purpose. This standard establishes the general sanitary requirements for overseas area meat processing plants that do not have an active US Department of Agriculture (USDA) foreign meat inspection program.

1.2 Application. This standard is applicable only in those countries that do not have an active USDA foreign meat inspection program for supplying, processing, or storing food destined for US Armed Forces procurement. Clarification: Those plants that are approved by the USDA foreign meat inspection program will be eligible for providing the military with meat products. Certain exceptions may be granted by major overseas commanders in those countries that have plants that are approved for only certain types of slaughter but not for other types, for example, Country A may have plants that are USDA approved for swine slaughter, but not for beef slaughter; therefore, this standard would be applicable for beef slaughter. Compliance with this standard is mandatory for the listing of plants in the Directory of Sanitarily Approved Food Establishments for Armed Forces Procurement as provided in AR 40-657/NAVSUPINST 4355.4C/AFR 163-2/MCOP 10110.31D.

1.3 Objectives. This standard is intended to insure clean, wholesome food products that are free from chemical, microbiological, and physical contaminants and to prevent the transmission of foodborne disease to members of the Armed Forces.

1.4 Limitations. This standard will not be used to determine the capability of an establishment to produce or furnish products or services which are in compliance with specifications or other purchase descriptions.

2. REFERENCED DOCUMENTS

2.1 Issues of documents. The following documents of the issue in effect on date of invitation for bids or request for proposal, form a part of this standard to the extent specified herein.

LAWS AND REGULATIONS

Environmental Protection Agency (EPA)

National Interim Primary Drinking Water Regulations

(Application for copies should be addressed to Superintendent of Public Documents, US Government Printing Office, Washington, DC 20402.)

US Department of Agriculture (USDA)

Agriculture Handbook No. 570 US Inspected Meat and Poultry Packing Plants - A Guide to Construction and Layout

Code of Federal Regulations (CFR), Title 7, Agriculture, and Regulations Promulgated Thereunder

List of Chemical Compounds Authorized for Use Under USDA Inspection and Grading Programs

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2.2 Other publications. The following documents form a part of this standard to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply:

National Sanitation Foundation (NSF)

NSF Standard 37 for Air Curtains

NSF Standard C-6 for Continuous Cloth Towel Dispensers

(Application for copies should be addressed to the National Sanitation Foundation, PO Box 1468, Ann Arbor, MI 48106.)

(Technical society and technical association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

3. DEFINITIONS

3.1 General.

3.1.1 Adequate. Methods which are needed to accomplish the intended purpose in keeping with accepted public health practices.

3.1.2 Adulterated. Adulterated shall mean the condition of a food (a) if it bears or contains any poisonous or deleterious substance in a quantity which may render it injurious to health; (b) if it bears or contains added poisonous or deleterious substance for which no safe tolerance has been officially established, or in excess of such tolerance if one has been established; (c) if it consists in whole or part of any filthy, putrid, or decomposed substance, or if it is otherwise unfit for human consumption; (d) if it has been processed, prepared, packed, or held under insanitary conditions, whereby it may have become contaminated with filth, or whereby it may have been rendered injurious to health; (e) if it is in whole or in part the product of a diseased animal, or an animal which had died otherwise than by slaughter; or (f) if its container is composed in whole, or in part, of any poisonous or deleterious substance which may render the contents injurious to health.

3.1.3 Contamination. Contamination shall be the act or process of exposing the product to an adulterant or unwholesome material.

3.1.4 Food. Any raw, cooked, or processed edible substance, ice, beverage, or ingredient used or intended for use or sale in whole or in part for human consumption.

3.1.5 Plant. The building or buildings or parts thereof, used for or in connection with the manufacturing, processing, packaging, labeling, or holding of human food.

3.1.6 Processing. Processing is all steps in the manufacture or preparation of a product into its final form.

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3.1.7 Production area. The room or area in which processing occurs.

3.1.8 Product area. The production area and all other areas where the product, ingredients, and packaging materials are handled or stored.

3.1.9 Product zone (food contact surface). The surface of any equipment, utensils, or other material that contacts the unpackaged product or ingredients during processing.

3.1.10 Sanitize. An adequate treatment of clean product zones by a process that is effective in destroying vegetative cells of pathogenic bacteria and in substantially reducing other microorganisms. Such treatment shall not adversely affect the product and shall be safe for the consumer.

3.1.11 Wholesome. That characteristic possessed by a food product that is conducive to good health and well being in the consumer.

3.2 Meat terms.

3.2.1 Animals. Cattle, sheep, swine, goats, rabbits, or deer.

3.2.2 Carcass. The commercially prepared or dressed body of any animal intended for human food.

3.2.3 Fabricating. Cutting and boning into wholesale or retail cuts, dicing, or grinding.

3.2.4 Meat. The edible part of the muscle of an animal, which is skeletal, or which is found in the tongue, in the diaphragm, in the heart, or in the esophagus, and which is intended for human food, with or without the accompanying and overlying fat and the portions of bone, skin, sinew, nerve, and blood vessels which normally accompany the muscle tissue and which are not separated from it in the process of dressing. It does not include the muscle found in the lips, snout, or ears.

3.2.5 Meat by-products. All edible parts (other than meat and prepared meats) intended for human food, derived from one or more animals, and including but not limited to such organs and parts as livers, kidneys, sweetbreads, brains, lungs, spleens, stomachs, tripe, lips, snouts, and ears.

3.2.6 Meat food products. Any articles intended for human food (other than meat, prepared meats, and meat by-products) which are derived or prepared in whole or in substantial and definite part, from any portion of any animal, except such articles as organotherapeutic substances, meat juice, meat extract, and the like, which are only for medicinal purposes and are advertised only to the medical profession.

3.2.7 Meat processing plant. A commercial plant which slaughters, processes, supplies, or stores meat, meat by-products, or meat food products. It may be

one or more buildings and includes but is not limited to barns, holding pens, separate storage areas (dry or refrigerated) which may be used as applicable, to hold animals or store raw materials or finished products destined for the US Armed Forces.

3.2.8 Prepared meats. The products intended for human food which are obtained by subjecting meat to drying, curing, smoking, cooking, grinding, seasoning, or flavoring, or to any combination of such procedures, and to which no considerable quantity of any substance other than meat or meat by-products has been added.

4. GENERAL REQUIREMENTS

4.1 Sanitary compliance rating (SCR). Establishments that attain an SCR of 90 or more shall be recommended for listing in the directory of Sanitarily Approved Food Establishments for Armed Forces Procurement, provided no critical defects, determined in accordance with 4.2.1, are recorded. When a critical defect is recorded, an SCR shall not be computed and the plant shall not be recommended for listing or retention in the Directory of Sanitarily Approved Food Establishments for Armed Forces Procurement.

4.2 Plant sanitary compliance checklist. The sanitary requirements are set forth in this military standard and itemized as sanitation defects in column 1 of the checklist (see Appendix). The individual defects are given assigned points in column 2 of the checklist, with some being designated as critical.

4.2.1 Recording of defects. The inspector designates as critical or numerically rates the observed sanitation defects. The numerical rating shall be within the numerical range of the assigned defect points in column 2 and recorded in column 3. Any defect entry and related defect points that are not applicable to the plant shall be deleted by lining out the nonapplicable defect and assigned defect points. Nonapplicable defect points shall not be included when totaling column 2. In instances where the inspector considers a defect to be of such magnitude as to constitute a serious health hazard, the numerical rating shall be deleted in column 2 and the word 'critical' shall be recorded in columns 2 and 3. Numerical and critical defects shall be explained in the remarks section in sufficient detail so as to clearly describe the condition which resulted in the disrating. Also, any other deficiencies observed and considered by the inspector to be of sufficient importance to affect the SCR shall be explained in this section.

4.2.2 Computation of the sanitary compliance rating (SCR). If a critical defect is recorded, an SCR shall not be computed. If no critical defects are found, columns 2 and 3 are totaled and the SCR shall be computed using the following formula:

$$\frac{\text{Sum of column 2} - \text{Sum of column 3}}{\text{Sum of column 2}} \times 100 = \text{SCR}$$

4.2.3 Checklist reproduction. Reproduction of the checklist locally is authorized.

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5. DETAILED REQUIREMENTS

5.1 Premises. The premises shall present a clean and orderly appearance. They shall be well drained, free of environmental conditions and/or materials that are a nuisance or a hazard to sanitation. The area shall be free of weeds, debris, and unused equipment and materials. The area shall be free of waste materials that are stored or handled in such a manner as to be a potential health hazard. The presence of any harborage, attractant, and/or breeding area for insects, rodents, or birds shall not be permitted. If the plant grounds are bordered by grounds not under the plant operator's control, care must be exercised in the plant by inspection, extermination, or other means to effect exclusion of pests, dirt, and other filth that may be a source of food contamination. The approaches to receiving and shipping docks shall be kept clean and maintained to minimize dust.

5.2 Raw materials. All raw materials must be obtained from approved sources as required by AR 40-657/NAVSUPINST 4355.4C/AFR 163-2/MCOP 10110.31D. Food which shows evidence of adulteration, contamination, insect infestation, or any condition that from a public health or aesthetic standpoint renders the product unfit for human consumption, shall not be accepted by the plant.

5.2.1 Single-service articles and packaging materials. Single-service articles and packaging materials shall be free of contamination and maintained in sanitary boxes, cartons, tubes, or otherwise protected and handled in a sanitary manner.

5.2.2 Antemortem and postmortem inspection service. Antemortem and postmortem inspection shall be performed (a) by local governmental inspection services if such services are acceptable to the United States military services or (b) by US Army veterinary service personnel.

5.3 Construction of building. The building shall be large enough to accommodate the operation without hampering sanitary practices. Floors, walls, and ceilings shall be constructed of materials that can readily be kept clean, sanitary, and in good repair. An unnecessary clutter of wiring, pipes, hangers, ducts, etc., shall be avoided. Ceilings shall be free of peeling paint (painted ceilings shall be avoided) and condensates. The exterior openings, including doors, windows, conveyor openings, pipe openings, and vents, shall be clean and in good repair. Where practicable, exterior openings shall be equipped with screens or other effective means (for example, air curtains, overlapping plastic strips) to prevent the entrance of insects, birds, and/or other animals. When the screening of openings is impracticable, such as in receiving areas, flying insect entry may be controlled by properly positioned air curtains or overlapping plastic strips large enough to cover the total door opening. Air curtains shall be equivalent to or comply with the National Sanitation Standard No. 37 for Air Curtains for Entranceways in Food Establishments. Screen doors shall open outward and be self-closing. Rooms in the processing areas shall not open directly into any barns or stables, living quarters, toilets, garages, or heavy maintenance shops.

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5.3.1 Livestock pens. The pens, ramps, unloading chutes, curbs, and runways shall be of such construction, materials, and finish, that they can be readily and thoroughly cleaned. They shall be in good repair, resistant to wear, properly curbed, and well drained, with liquid wastes delivered into the plant waste system. Curbs at least 12 inches (30.48 cm) high shall be installed around the borders of livestock pen area, except at entrances, to confine liquids and material. Well-located hose connections shall be provided for the cleanup of the livestock pen. Walls and ceilings shall be in good repair. Holding pens shall be of adequate size and equipped to perform proper antemortem inspection. Water troughs or devices with suitable overflows shall be located over or adjacent to pen floor drains. A suspect and squeeze pen shall be provided with a weathertight roof and ample lighting so that antemortem inspections may be carried on properly. A separate pen shall be provided to isolate suspects and sick or injured animals. Livestock pen capacity shall be sufficient to hold a single day's kill. A reasonable proportion of the livestock pens, including the area where the suspect pen and squeeze pen are located, shall be under a weathertight roof.

5.3.2 Holding and shackling pens. Holding and shackling pens shall be located outside of or effectively separated from the slaughtering department by full-height partitions of impervious material to avoid dust, odor, and contamination of the slaughtering area.

5.3.3 Slaughtering department. Adequate facilities shall be provided for confining animals for stunning or shackling. Animals shall be slaughtered using humane procedures. Beef may be dressed on either a movable rail system or cradles and hoists. Beef kill floors shall include: a system of suspension so that animals will be bled only while hanging; a bleeding area large enough so that blood will not be splashed onto stunned animals or carcasses being dressed and shall be properly drained and curbed; suitable facilities for dehorning, flushing, washing, and inspecting heads; an area for skinning and eviscerating carcasses; an area for inspection of carcasses and viscera; and, an area equipped with a water spray for washing finished carcasses. Veal, swine, sheep, and goats shall be slaughtered on either a manual or mechanical rail system, except limited veal kill may be conducted on a beef kill floor. Killing floors shall provide adequate facilities and space for the species slaughtered, including adequate inspection stations equipped with sterilizers. All killing floors shall provide a separate protected or secure area for holding suspected carcasses with associated viscera, heads, and hooves. Handwashing basins in slaughtering rooms shall be operated by some means other than the hands.

5.3.4 Military inspector's office. A conveniently located office shall be provided the military inspector when resident inspection is required. The office should be located in close proximity to, and be readily accessible to, the part of the plant where the bulk of the inspection work is done. It shall be of sufficient size as required by the activities of the establishment. The office shall be located so that it is not entered through a company office or employee's locker room. It shall have lavatory facilities and suitable furniture. In plants where slaughtering operations are conducted and the antemortem and postmortem inspections are performed by military veterinary inspectors, clothing lockers, shower-bath

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facilities, soap and towels, toilet room and dressing room facilities, and janitorial service shall be provided. The toilet room shall be separate from the shower room and equipped with an exhaust fan.

5.4 Lighting. Each room shall have sufficient natural or artificial lighting for the purpose for which it is to be used. Sufficient lighting shall be present in all areas to permit adequate visibility for cleaning and sanitary inspection of operations. Lights in the processing areas and other areas where a potential exists for product adulteration (for example, chillrooms) shall be either equipped with protective shields or they shall be of such construction that they will not shatter if broken. The overall intensity of artificial illumination in workrooms shall be no less than 30 foot-candles. At all locations where inspections are made or where special illumination is required to enable employees to properly prepare products to meet the requirements of the inspections, the illumination shall be not less than 50 foot-candles. There should be not less than 10 foot-candles in the pens, alleys, area where antemortem inspection is performed, and carcass coolers. Suspect pens, offal coolers (except at packing point and reinspection area), locker rooms, and toilets shall have not less than 20 foot-candles.

5.5 Ventilation and humidity. Humidity shall be regulated in conjunction with ventilation or air movement to control condensation, objectionable odors, and mold growth on ceilings and walls in all areas. Air for ventilation shall be adequately filtered as appropriate to prevent contamination. Ventilation systems shall be kept clean and maintained in good repair. In locations subject to dust and objectionable odors, such as those adjoining livestock pens, runways, and inedible departments, windows shall be the fixed-type.

5.6 Water supply. The water supply shall be readily accessible, of a sufficient quantity, and have an acceptable sanitary quality, as established in the National Interim Primary Drinking Water Regulations or individual military service regulations or acceptable host country drinking water standards. The water heater shall be of such capacity so as to be able to furnish an undiminished supply of hot water for a complete food plant cleaning procedure at all times throughout a working day. There shall be mixing valves at all scullery sinks and hose connections. There shall be no cross-connection between potable and nonpotable lines. There shall be protection against possible back-siphonage. There shall be effective protection of wells from contamination by surface drainage or floods. Bacteriological examination and water test results shall be maintained at the plant to show that the water supply has been approved by the host country's health authorities within the past six months.* Nonpotable water outlets, if present, shall be located and identified by color code and labeled nonpotable so as to preclude the use of nonpotable water for other than the purposes designated. The color code used shall be readily identifiable, prominently displayed, and clearly understood by plant personnel**

*If host country's health authorities do not have such evidence of water potability, applicable military regulations governing potable water supplies will be followed to approve the water supply(ies).

**The use of nonpotable water is permitted for the flushing of urinals and commodes, for boilers, and for such other similar uses provided it does not directly, nor indirectly, contact the ingredients, product, packaging materials, general product area, or personnel handling the product.

5.7 Ice (if used). Ice shall be made from a supply of potable water which meets the requirements of 5.6. It shall be manufactured, handled, stored, and used in a sanitary manner.

5.8 Disposal of wastes. Liquid wastes shall be conveyed to a public sewer through inclosed piping or shall be disposed of in another sanitary sewage system approved by host country health authorities. Floor drains shall be functional and properly trapped. Drains for cattle paunch contents shall be at least 8 inches (20.32 cm) in diameter to avoid clogging. Drains for hog, sheep, goat, and calf stomach contents shall be at least 6 inches (15.24 cm) in diameter. Such drains should not be connected to the regular drainage lines or to toilet lines. All other floor drains shall have an inside diameter of at least 4 inches (10.16 cm). Dry and product waste shall be placed in suitable covered receptacles conveniently located throughout the plant and premises. All waste shall be collected and disposed of at frequent intervals in a sanitary manner to prevent insect and rodent attraction and development of objectionable odors. All containers or equipment used to handle, transport, or hold inedible materials shall be clearly marked "inedible" and thoroughly cleaned as often as required to prevent insanitary or malodorous conditions (containers need not be marked in English, but must be color coded).

5.8.1 Handling and control of inedible, condemned, and restricted products. Adequate facilities for handling inedible and condemned material shall be provided. Inedible products departments shall be separate and distinct from those used for edible products, except that a solid, self-closing door completely filling the opening is allowed between the inedible products departments and the slaughtering or viscera separating departments. Inedible product containers should be properly marked "inedible." If rendering facilities are not provided, condemned material shall be held in water-tight, covered containers in a suitable inedible products room pending removal. No personnel from a renderer shall enter coolers or processing areas of the plant. Condemned materials shall be maintained under direct positive controls of the inspector until acceptably denatured or rendered incapable of use as human food. Inedible materials shall be maintained under controls by plant and inspector until they are effectively denatured or decharacterized and not capable of use as human food or packaged and identified as food other than for humans. Restricted products (for example, cysticercosis carcasses and carcasses passed for cooking) shall be under direct or positive inspectional control until acceptably treated for use as human food. Controls must be maintained until condemned parts are rendered incapable of spreading infection to other animals.

5.9 Toilet, dressing room, and handwashing facilities. A sufficient number of sanitary toilets or privies shall be provided. Employee toilet facilities required:

<u>Persons of same sex</u>	<u>Toilet bowls required</u>
1-15 inclusive	1
16-35 inclusive	2
36-55 inclusive	*3
56-80 inclusive	*4
For each additional 30 persons in excess of 80	*1

*Urinals may be substituted for toilet bowls but only to the extent of one-third of the total number of bowls stated.

Toilet rooms shall be conveniently located, constructed of materials which can be easily and satisfactorily cleaned, adequately lighted, and separately vented to the outside. They shall be constructed so that they do not open directly into rooms or areas where components or products are processed or stored. The doors shall be tight-fitting and self-closing. A sign directing employees to wash their hands before returning to work shall be conspicuously posted in all toilet rooms. Handwashing signs shall be multilingual, as appropriate. Handwashing facilities, with running water at a suitable temperature for handwashing, soap (liquid or powder), soap dispenser, and sanitary single-service towels, clean individual sections of continuous cloth toweling, or hot air blower-type hand dryers will be conveniently located in the toilet rooms and throughout the processing areas. Continuous cloth towel dispensers shall be equivalent to or comply with the National Sanitation Standard No. C-6 for Continuous Cloth Towel Dispensers. Toilets, dressing rooms, and handwashing facilities will be maintained in a clean, orderly manner. There shall be a sanitary waste receptacle in each toilet room. Restrooms shall not be used for storage of cleaning equipment. Privies shall be separate from the processing building, and of a sanitary type, location, and construction. Each employee shall be furnished a locker or other suitable facility, and lockers and dressing rooms shall be kept clean and orderly. Locker (dressing) rooms shall be separate from toilet rooms. Suitable shower-bath facilities shall be provided in locker rooms (not in toilet rooms) at establishments where slaughtering operations are conducted. Such facilities are also desirable in processing plants.

5.10 Construction and repair of equipment and utensils. Equipment and utensils shall be designed, constructed, and used so as to preclude the adulteration of food with toxic lubricants, fuel, metal fragments, contaminated water, and any other contaminants. Lubricants used on contact surfaces of moving parts to pumps, product handling and processing equipment shall be edible and nontoxic and shall be used sparingly. The only lubricants authorized for use are those listed in the USDA publication, "List of Chemical Compounds Authorized for Use Under USDA Inspection and Grading Programs," or other suitable lubricants.

5.10.1 Equipment and utensils. All equipment and utensils shall be designed and be of such material and workmanship so as to be smooth, easily cleanable, and durable. The food contact surfaces of such equipment and utensils shall, in addition, be easily accessible for cleaning, nontoxic, corrosion-resistant, and consist of nonabsorbent material. Food contact surfaces and solder shall be corrosive-resistant and shall not contain antimony, bismuth, cadmium, copper, lead,

zinc, and/or other toxic materials. Solder on the food contact surface shall be hard solder of such formulation so as to be nontoxic under use conditions. Equipment shall be so located as to provide adequate space for cleaning, maintenance, and inspection. Painted product-contact surfaces are not acceptable. The use of containers or equipment made of enamelware or porcelain is not acceptable for any purpose in connection with handling and processing of product.

5.10.2 Cutting and boning boards and tables. Boards used on boning and cutting tables shall be either solid or unlaminated hardwood, approved rubber, or plastic acceptable to the military services, shall be in the shortest sections practical, and easily removable for cleaning. Cutting surfaces shall be maintained in a sanitary condition at all times. They shall be smooth, relatively impervious, devoid of cracks and crevices, and free of objectionable odor. Cutting surfaces not meeting these criteria shall be rejected.

5.11 Cleaning and sanitizing treatment. The methods used for cleaning and sanitizing shall be such that the product shall not be contaminated or adulterated. All products shall be moved sufficiently far away or otherwise protected prior to the start of cleaning to avoid contamination or adulteration by splashing. All multiple-service containers, equipment, and utensils used in handling, processing, storing, or transporting of exposed product shall be disassembled, as applicable, cleaned thoroughly, and sanitized after use. Chemicals used in cleaning and sanitizing treatments shall be properly labeled and stored. Cleaning and sanitizing chemicals shall be used IAW the manufacturer's recommendation. The only chemical compounds authorized for use are those listed in the USDA publication, "List of Chemical Compounds Authorized for Use Under USDA Inspection and Grading Program," or other suitable compounds. When chemical sanitizers are used, a test kit or other device that accurately measures the correct concentration of the solution shall be provided and used. If water is to be used as the sanitizer, it must be not less than 180°F (82°C). All rooms and areas used to receive, process, or store components or the finished product shall be maintained in a clean, sanitary manner so as to preclude the possibility of microbiological, chemical, or physical contamination. Adequate and conveniently located hose connections for cleanup purposes shall be provided throughout the plant.

5.11.1 Sterilizers. Sterilizers shall be constructed of rust-resistant metal, and shall be of sufficient size for complete immersion of knives, cleavers, saws, and other implements in 180°F (82°C) water or equally effective sanitizer. They should adjoin the lavatories in slaughtering departments and elsewhere as required. Each sterilizing receptacle should be provided with a water line, a steam line or other means of heating, an overflow, and a means for completely emptying the receptacle.

5.12 Methods. Methods used in the processing, handling, and storage of meat, meat by-products, or meat food products shall be conducted in a sanitary manner so as to prevent contamination or adulteration, and not contribute to deterioration of the product from a public health standpoint. Acceptable procedures for

the control of trichinae shall be practiced to include separate pork processing on the same tables and equipment. Acceptable destruction of trichinae shall be used on products containing not customarily cooked elsewhere. Slaughtering, dressing, and evisceration shall prevent the contamination of carcasses and edible viscera of the gastro-intestinal tract, by lactating udders, by touching carcass, viscera, or head, by direct or indirect contact with carcass, viscera, or head, by direct or indirect contact with contaminated articles, insanitary clothing. A properly marked retained cage or tag shall be present to secure retained product.

5.13 Public health controls. When applicable, means shall include adequate public health control of the raw materials and finished products. Means shall include physical, chemical, and microbiological tests necessary to establish that product has not been adulterated. Evidence that all necessary examinations and/or tests have been made and records of such examinations and/or tests shall be on file with the military inspector. Head, viscera, carcass identity tags, retained tags, and condemned tags shall be used (tags need not be color coded).

5.14 Cooling and refrigeration. Cooler rooms shall be free of odors and from mold. They also shall be maintained in a condition such that coolers and freezers shall be capable of maintaining temperature necessary for the preservation of the foods being stored. Refrigerated space should be provided to handle carcasses. A maximum temperature of 40°F (4°C) shall be maintained in processing areas such as beef boning and trimming, bacon slicing, poultry meats, and sausage chopping and mixing shall be conducted at a temperature not higher than 50°F (10°C). Such operations shall be in rooms separate from carcass or product holding coolers. Refrigeration facilities shall be capable of maintaining a product temperature lower. Cabinet type frozen food storage facilities shall be as necessary to maintain refrigeration efficiency, and shall have an accurate (+30°F (+2°C)) thermometer indicating a representative temperature. Frozen food storage facilities shall be adequately maintained of refrigerated air and shall be defrosted as frequently as necessary to maintain refrigeration efficiency. Such facilities shall be equipped with an accurate (+2°C) thermometer, the sensing element of which shall be located one-third of the distance between the floor and ceiling, but not less than 18 inches from the blast of air from the cooling unit, cooling coils, heat exchanger, or the entrance door.

5.15 Storing and storage facilities. Storage facilities for raw materials, packing and packaging materials, and finished products shall be clean, sanitary, and in good repair. Storage facilities shall be designed to minimize deterioration and prevent contamination. Storage facilities shall be used and dunnage or pallets shall be used where necessary to prevent contamination.

cutting, prepackaging departments having shall be located in frozen food storage structure of 0°F (-18°C) or defrosted as frequently as necessary to insure circulation of air. The facility shall be equipped with an accurate (+30°F) thermometer located within the upper portion of the storage unit, or near the entrance.

shall be provided for finished products. Methods which minimize contamination of shelves, cabinets, and other materials from

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ation of beef and pork muscle that are processed by the contents of the carcass, or transferred from another animal's carcass, or from carcasses of diseased animals, or from carcasses of animals which are not acceptable for human consumption.

be provided to assure the product is not contaminated. The examinations and/or tests shall be performed and the results made available to the military inspector (gang tags), retained tags shall be in English, but

from objectionable sanitary condition. The temperature and humidity shall be controlled. Sufficient ventilation shall be provided to process the product properly. Such areas shall be maintained in a sanitary condition.

5.16 Control of insects, birds, and animals. Insects, birds, and/or other animals shall be excluded from the plant. Effective measures for the control of insects, birds, and/or other animals shall be maintained at all times. Operations or procedures which produce rodent harborages or insect breeding areas are prohibited. Insecticides and rodenticides authorized for use are those listed in the USDA publication, "List of Chemical Compounds Authorized for Use Under USDA Inspection and Grading Programs," or other suitable insecticides and rodenticides. These products shall be IAW labeled directions and shall be handled and stored in a safe manner.

5.17 Vehicles and transportation facilities. Vehicles and transportation facilities shall be constructed and operated to protect contents from contamination and deterioration. They shall be kept clean and in good repair.

5.18 Cleanliness and health of personnel.

5.18.1 Cleanliness. All employees shall wash their hands before beginning work and upon returning to work after using toilet facilities, eating, smoking, or otherwise soiling their hands. They shall keep their hands clean and follow acceptable hygienic practices while on duty. Eating, expectorating, or use of tobacco in any form shall be prohibited in each room and compartment where any food products or supplies are prepared, stored, or otherwise handled. Personnel shall not wear fingernail polish or insecure jewelry. All persons engaged in receiving, testing, processing, manufacturing, packaging, or handling food products shall wear clean, white, or light-colored washable or disposable outer garments. Hair nets, caps, beard nets, or other effective hair restraints to effectively cover hair shall be worn so as to prevent contamination of food and food contact surfaces. Employee's personal effects shall not be stored in production areas.

5.18.2 Health. No person afflicted with, or a carrier of, a communicable disease shall be permitted in any room or compartment where products are prepared, manufactured, or otherwise handled. No person who has a discharging or infected wound, sore, or lesion on hands, arms, or other exposed portion of the body shall work in any processing rooms or in any capacity resulting in contact with the processing or handling of products, containers, or equipment. Where health authorities require health certificates, they shall be kept on file at the plant office. Plant personnel shall receive appropriate training in proper food handling techniques, disease control, and food protection principles and will be cognizant of the danger of poor personal hygiene and insanitary practices.

Custodians:

Army - GL
Navy - SA
Air Force - 50

Preparing activity:

Army - GL
Project No.: 8905-0980

Review activities:

Army - MD
Navy - MS, SA
Air Force - 50

11 June 1982

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MEAT PROCESSING PLANT SANITARY COMPLIANCE CHECKLIST		PAGE 1 OF 4 PAGES	
REFERENCE: MIL-STD-1481D This appendix is an integral part of MIL-STD-1481D and its application is mandatory.			
NAME AND ADDRESS OF ESTABLISHMENT INSPECTED:		DATE INSPECTED:	
NAME AND TITLE OF ACCOMPANYING INDIVIDUAL:		INSPECTOR: (Name, Grade, Unit Telephone No.)	
SANITATION DEFECTS (1)		ASSIGNED DEFECT POINTS (2)	INSPR'S DEFECT POINTS (3)
1. PREMISES			
A. Not clean or well organized-----		3	
B. Not well drained-----		3	
C. Not free from nuisances and sources of contamination-----		5	
2. RAW MATERIALS			
A. Not obtained from approved source-----		Critical	
B. Not inspected upon receipt and at other times as needed for determination of adulteration, contamination, or infestation-----		5	
C. Single-service articles and packaging materials not protected-----		4	
D. Local antemortem and postmortem inspection systems unacceptable (this defect applicable when US military veterinary personnel are unable to provide inspection or unable to provide adequate supervision)-----		Critical	
3. CONSTRUCTION OF BUILDING			
A. Not large enough to accommodate the operation without hampering sanitary practices-----		4	
B. Rooms not separate when required-----		4	
C. Walls, floors, ceilings not in good repair or not constructed of materials that can easily be kept clean and sanitary-----		4	
D. Unnecessary clutter of wiring, pipes, hangers, ducts, etc-----		4	
E. Exterior openings not clean and in good repair-----		4	
F. Exterior openings do not prevent the entrance of insects, birds, or animals-----		4	
G. Air curtains, if used, not in compliance-----		3	
H. Screen doors not outward opening and not self-closing-----		3	
I. Processing area opens directly into living quarters, garages, heavy maintenance shops, barns, or stables-----		4	
J. Livestock pens, ramps, unloading chutes, and runways construction prevents their maintenance in a sanitary manner-----		3	
K. Livestock pen capacity not sufficient to hold a single day's kill-----		3	
L. Reasonable proportion of livestock pens, where the suspect pen and squeeze pens are located, not under a weathertight roof-----		3	
M. Water troughs or devices not located over or adjacent to pen floor drains-----		3	
N. Suspect and squeeze pen not adequately constructed to conduct antemortem inspection-----		5	
O. Separate facilities not provided for suspect, sick, or injured animals-----		5	
P. Holding and shackling pens not effectively located to prevent contamination of slaughtering areas-----		Critical	
Q. Adequate facilities for confining animals prior to stunning or shackling not provided-----		3	
R. Humane procedures not used in slaughtering animals-----		Critical	
S. Adequate facilities for slaughtering and dressing not provided-----		Critical	
T. Adequate bleeding facilities not provided and no suitable suspension system exists to allow animals to be bled only while hanging-----		Critical	
U. Bleeding areas are not properly drained and curbed-----		5	
V. Adequate inspection stations not provided-----		5	
W. Adequate facilities for carcass and associated head and viscera inspection not provided-----		5	
X. Separate facilities for holding and inspecting suspected carcasses with associated viscera, head, and hooves not provided-----		Critical	
Y. Military inspector's office not provided with facilities as required-----		5	
4. LIGHTING			
A. Insufficient lighting-----		4	
B. Lights in processing area not equipped with shields when required-----		5	
5. VENTILATION AND HUMIDITY			
A. Insufficient control of ventilation or air movement-----		5	
B. Presence of mold on walls or ceilings in processing or storage areas-----		5	
C. Accumulation of condensates in processing or storage areas-----		5	
D. Ventilation system not kept clean and maintained in good repair-----		3	
E. Windows not of fixed-type when required-----		5	
6. WATER SUPPLY			
A. Not easily accessible-----		4	
B. Inadequate in quantity-----		5	
C. Undiminished supply of hot water not available-----		5	
D. Mixing valves not available at all scullery sinks and hose connections-----		4	
E. Cross-connection exists between potable and nonpotable water supply or sewage-----		Critical	
F. Not adequate protection against possible back-siphonage-----		5	
G. Potability certificate not current or available-----		5	
H. Potable water supply found to be nonpotable-----		Critical	
I. Nonpotable water outlets not identified by prominently displayed color code and labels-----		5	
7. ICE (IF USED)			
A. Not made from potable water which meets requirements-----		Critical	
B. Not manufactured, handled, stored, or used in a sanitary manner-----		5	

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MEAT PROCESSING PLANT SANITARY COMPLIANCE CHECKLIST		PAGE 2 OF 4 PAGES	
SANITATION DEFECTS		ASSIGNED DEFECT POINTS (2)	INSPECTION DEFECT POINTS (3)
(1)			
8. DISPOSAL OF WASTES			
A. Liquid wastes not disposed in a sanitary manner-----		5	
B. Floor drains not of proper diameter, functional, or properly trapped-----		3	
C. Waste not collected in suitable, properly covered containers, and disposed of at frequent intervals and/or in a sanitary manner-----		4	
D. Inedible product containers and equipment not properly identified-----		3	
E. Adequate facilities and containers for handling inedible and condemned material not provided-----		5	
F. Inedible products depts not adequately separated from depts processing edible materials-----		5	
G. Condemned, inedible, and restricted products not maintained under positive inspection control-----		Critical	
9. TOILET, DRESSING ROOM, AND HANDWASHING FACILITIES			
A. Sufficient number of toilets or privies not provided-----		5	
B. Toilet rooms not conveniently located or constructed of materials not easily cleaned-----		4	
C. Toilet rooms not adequately lighted-----		2	
D. Toilet rooms not separately vented to the outside-----		5	
E. Toilet rooms open directly into processing area-----		5	
F. Doors not self-closing and tight-fitting-----		3	
G. Absence of handwashing sign-----		3	
H. Absence of suitable temperature water, soap, soap dispenser, or appropriate hand-drying facilities, conveniently located-----		5	
I. Continuous cloth towel dispensers, if used, not in compliance-----		3	
J. Sanitary waste receptacles not present-----		3	
K. Toilets, dressing rooms, and handwashing facilities not maintained in a clean, orderly fashion-----		4	
L. Restrooms used for storage of cleaning equipment-----		3	
M. Privies not separate from the processing building-----		Critical	
N. Privies not of sanitary type, location, and construction-----		5	
O. Each employee not furnished a locker or other suitable facility-----		5	
P. Dressing rooms not separate from toilet rooms-----		3	
Q. Shower-bath facilities not provided when required-----		3	
10. CONSTRUCTION AND REPAIR OF EQUIPMENT AND UTENSILS			
A. Design, construction, and use of such equipment and utensils does not preclude the adulteration of food-----		Critical	
B. Product-contact surfaces not of impervious material, not smooth, nor of corrosion-resistant material-----		4	
C. Product-contact surfaces not of nontoxic material-----		Critical	
D. Not clean or not in good repair-----		5	
E. Not constructed so that all product surfaces can be readily sanitized-----		5	
F. Equipment not easily accessible for cleaning, maintenance, and inspection-----		5	
11. CLEANING AND SANITIZING TREATMENT			
A. Cleaning or sanitizing methods do not prevent product contamination or adulteration-----		Critical	
B. All products not moved away or protected prior to equipment or area cleaning to avoid contamination or adulteration-----		Critical	
C. All multiservice containers, equipment, and utensils not cleaned and sanitized after use-----		Critical	
D. Cleaning and sanitizing chemicals not properly labeled or stored-----		5	
E. Unauthorized chemical compounds used for cleaning and sanitizing-----		Critical	
F. Test kits or other device not used when chemical sanitizers are utilized-----		5	
G. Water used as sanitizer less than 180°F (82°C)-----		5	
H. Rooms and areas not maintained in a clean, sanitary manner-----		5	
I. Adequate and conveniently located hose connections not available-----		4	
J. Adequate sterilizers not provided on kill floor, at inspection stations, and elsewhere as required-----		Critical	
12. METHODS			
A. Methods permit contamination/adulteration of product-----		Critical	
B. Methods permit deterioration of product-----		5	
C. Methods for detection or destruction of trichinae in products containing pork muscle not acceptable-----		Critical	
D. Dressing procedures do not prevent contamination of carcass or edible viscera-----		Critical	
E. A properly marked retained cage or other acceptable devices not available for securing product needing retention-----		Critical	
F. Methods for control of trichinae not acceptable-----		Critical	
13. PUBLIC HEALTH CONTROLS			
A. When applicable, examinations not performed to assure adequate public health control of the raw materials and finished products-----		5	
B. Records of examination and tests of raw materials and finished products not available-----		5	
C. Identity tags not color coded-----		3	
14. COOLING AND REFRIGERATION			
A. Cooler rooms not free from objectionable odors and from mold-----		5	
B. Cooler rooms not maintained in a sanitary condition-----		5	
C. Product not stored at proper temperature and humidity-----		5	
D. Processing temperature higher than 50°F (10°C)-----		5	
15. STORING AND STORAGE FACILITIES			
A. Storage facilities not clean, sanitary, or in good repair-----		3	
B. Storing methods do not minimize deterioration or prevent contamination-----		5	
C. Shelves, cabinets, or dunnage not used where necessary to prevent contamination or minimize deterioration-----		5	

MEAT PROCESSING PLANT SANITARY COMPLIANCE CHECKLIST		PAGE 3 OF 4 PAGES	
SANITATION DEFECT (1)		ASSIGNED DEFECT POINTS (2)	INSPECTION'S DEFECT POINTS (3)
16. CONTROL OF INSECTS, BIRDS, AND ANIMALS			
A. Presence of insects, birds, and/or other animals in production area-----		Critical	
B. Presence of insects, birds, and/or other animals in nonproduction area-----		5	
C. Effective measures for control of insects, birds, and/or other animals not maintained at all times-----		3	
D. Rodent harborages or insect breeding places present-----		4	
E. Unauthorized insecticides or rodenticides used-----		Critical	
F. Insecticides or rodenticides not used IAW labeled directions-----		5	
G. Insecticides or rodenticides are handled or stored in an unsafe manner-----		5	
17. VEHICLE AND TRANSPORTATION FACILITIES			
A. Not constructed or operated to protect contents from contamination or deterioration-----		Critical	
B. Not properly maintained or not clean-----		3	
18. CLEANLINESS AND HEALTH OF PERSONNEL			
A. Employees not washing hands after contamination-----		Critical	
B. Failure of employees to be hygienically clean-----		4	
C. Personnel not prohibited from eating, smoking, chewing tobacco, or expectorating in product handling areas-----		5	
D. Fingernail polish and insecure jewelry worn by plant personnel-----		3	
E. Employees not wearing garment/hair restraints suitable for work being performed-----		5	
F. Storage of employee's personal effects in production rooms-----		3	
G. Employees affected with or a carrier of a communicable or infectious disease not excluded from product areas-----		Critical	
H. Plant employees having an infectious wound, sore, or lesion on hands, arms, or other exposed parts of the body not excluded from contacting ingredients, products, or product zone-----		Critical	
I. Prescribed medical examinations of personnel not being made and/or records of such not available-----		4	
J. Plant personnel not instructed in acceptable hygienic practices, disease control, and proper sanitary rules of food handling-----		Critical	
19. TOTALS			
20.a. SCR COMPUTATIONS	b. SCR ASSIGNED	c. NUMBER OF CRITICAL DEFECTS	

~~11 June 1982~~

MEAT PROCESSING PLANT SANITARY COMPLIANCE CHECKLIST

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21. REMARKS/RECOMMENDATIONS

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DOCUMENT IDENTIFIER (Number) AND TITLE

MIL-STD-1481D Sanitary Standards For Meat Processing Plants In Overseas Areas

NAME OF ORGANIZATION AND ADDRESS OF SUBMITTER

☐ VENDOR ☐ USER ☐ MANUFACTURER

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MIL-STD-1482C
NOTICE 1
1 November 1986

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1. THE FOLLOWING PAGES OF MIL-STD-1482C HAVE BEEN REVISED AND SUPERSEDE THE PAGES LISTED:

NEW PAGE	DATE	SUPERSEDED PAGE	DATE
5, 5a	1 November 1986	5	16 September 1985
6, 6a	1 November 1986	6	16 September 1985
7, 7a	1 November 1986	7	16 September 1985 (Reprinted without change in content)
8, 8a	1 November 1986	8	16 September 1985

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Air Force - 50

Preparing Activity:
Army - GL

(Project No. 8910-0449)

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